UNITED STATES DISTRICT COURT
IN THE SOUTHERN DISTRICT OF TEXAS
CORPUS CHRISTI DIVISION

Mainland Laboratory, Ltd.	§	
Plaintiff	§	
	§	
v.	§	**Civ. No. C-07-288**
	§	
Headwaters Resources, Inc. et al.	§	
Defendant	§	

ORDER GRANTING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

I. Introduction

This case is a patent dispute between the patent holder, Mainland Laboratory, and the Headwaters entities. Mainland Laboratory is the owner of United States Patent No. 6,701,111 ("the '111 patent"), which claims methods for pre-treating flyash for use in concrete. During the pendency of the '111 patent application, Mainland Laboratory and ISG Resources entered into a license agreement for the use of the technology. After the execution of the agreement, Headwaters purchased ISG Resources and changed its name to Headwaters Resources.

On February 6, 2007, the Headwaters entities ("Headwaters") gave notice to Mainland Laboratory that it would no longer make any royalty payments under the license because it had concluded that the '111 patent was invalid. In response, Mainland Laboratory brought suit claiming both breach of the license agreement and infringement of the '111 patent. Due to an arbitration agreement, the only

issue before the Court is the validity of the '111 patent. On November 14, 2008, Headwaters moved for summary judgment.

II. The Technology

The '111 patent claims methods for pre-treating flyash for use in concrete. Flyash is a byproduct formed primarily by the burning of coal in coal-fired power plants. When coal is burned, the majority of the coal's mass evolves into flue gases that exit the boiler. Entrained within the flue gas are fine ash particles that are collectively referred to as flyash.

In the concrete industry, flyash is used to improve concrete's resistance to sulfate deterioration, increase the workability of fresh concrete, reduce the temperature rise during hydration, reduce expansion, and improve the durability and strength of concrete. Concrete is also improved by adding various chemical admixtures, such as air entraining agents, retarding agents, accelerating agents, and water reducing agents. However, if the flyash contains a high amount of unburned carbon, then the unburned carbon will bind with these other admixtures. This reduces the amount of admixture available for future chemical reactions, which reduces the effectiveness of the chemical additives. The potential for the unburned carbon to bind with other compounds is called the adsorption potential.

The '111 patent claims methods for pre-treating the flyash in order to lower or control the adsorption potential of the cementitious composition. This is accomplished by treating the flyash with "sacrificial" agents before the flyash is added to the composition. These treatment agents are preferentially adsorbed by

the unburned carbon, thereby satiating the carbon sites and inhibiting the future adsorption of the chemical admixtures. The end result is an increase in the effectiveness of the chemical admixtures.

III. Invalidity

As a defense, Headwaters argues that the '111 patent claims are invalid under 35 U.S.C. § 102(b) because they are anticipated by Japanese Patent No. 8-337449 ("JP '449"). In the alternative, Headwaters argues that the '111 patent claims are invalid under 35 U.S.C. § 103(a) because they are rendered obvious by Japanese Patent No. 5-24900 ("JP '900") in light of JP '449.

a. Anticipation

An invention is anticipated if it is "patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the application for patent in the United States." 35 U.S.C. § 102(b). Specifically, Headwaters argues that the claims at issue are invalid because they were published in a Japanese patent application more than one year prior to the filing date of the '111 patent application. JP '449 was published on December 24, 1996, more than one year before the earliest possible priority date for the '111 patent. Therefore, JP '449 is prior art for purposes of anticipation and obviousness.

A claim is anticipated if a prior art reference discloses, either expressly or inherently, each limitation of the patent claim. *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008). A limitation is inherent and in the

public domain if it is "the natural result flowing from the explicit disclosure of the prior art." *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1377 (Fed. Cir. 2005). When considering a prior art method, "the anticipation doctrine examines the natural and inherent results in that method without regard to the full recognition of those benefits or characteristics within the art field at the time of the prior art disclosure." *Id.* at 1378. Headwaters maintains that each limitation of the three patent claims is either expressly or inherently disclosed by JP '449. The standard for invalidity is clear and convincing evidence.

i. Claim 1

Claim 1 of the '111 patent claims "a method for pretreating a non-aqueous flyash for use in a cementitious composition comprising the steps of: obtaining said non-aqueous flyash; treating said flyash with an effective amount of a treatment agent selected from the group consisting of an ethoxylate, sodium lauryl sulfate, and tall oil to lower said adsorption potential of said cementitious composition when water is added to said composition said effective amount of said treatment agent is in the range of about .001 wt% to about 20 wt% solid to solid; adding said treated flyash to said cementitious composition; and adding to said cementitious composition sufficient water to form a cementitious slurry."

JP '449 expressly discloses each of the above limitations. Specifically, JP '449 teaches a "method and device whereby unburned carbon-containing fly ash is refined, thus refined fly ash is obtained." D.E. 98, Ex. 6, p. 16. The flyash is non-aqueous because it is collected directly from the exhaust of a coal burning boiler.

Id. at 7. JP '449 teaches treating the flyash with a claimed treatment agent, polyoxyethylene nonylphenyl ether, which is an ethoxylate. *Id.* at 37. JP '449 also teaches treating the flyash with an amount of agent in the range of .001 wt% to 5 wt% solid to solid, which is a species of the claimed range. *Id.* at 16. Lastly, JP '449 teaches mixing cement, flyash, aggregate, water, and an air entraining agent to produce flyash concrete. *Id.* at 21.

Mainland Laboratory does not dispute the above disclosures. Instead, the plaintiff argues that JP '449 does not teach the limitation "to lower said adsorption potential of said cementitious composition." Mainland Laboratory argues that the '111 patent is novel and non-obvious because "it allows the user to pre-treat just the fly ash to address the adsorption potential of any component or admixture, whether of fly ash or another component or admixture." However, the phrase "to lower said adsorption potential of said cementitious composition" is merely a statement of intended purpose and not a limitation.

In *Ben Venue Laboratories*, the Federal Circuit examined a patent that claimed "a method for treating a cancer patient to effect regression of a taxol-sensitive tumor." *Bristol-Myers Squibb Co. v. Ben Venue Labs.*, 246 F.3d 1368 (Fed. Cir. 2001). The Federal Circuit construed the expression "to effect regression of a taxol-sensitive tumor" as only "a statement of purpose and intended result" that did not result in a manipulative difference in the steps of the claim. *Id.* at 1376. Similarly, the phrase "to lower said adsorption potential of said cementitious composition" is only a statement of purpose that does not result

in any manipulative difference in the steps of the claim. An individual using the method in JP '449 to lower the adsorption potential of flyash would necessarily perform each and every step in claim 1 of the '111 patent.

The individual would first obtain non-aqueous flyash, then he would treat the flyash with an amount of ethoxylate between .001 wt% and 20 wt%, then he would add the treated flyash to the cementitious composition, and then he would add water to the cementitious composition. The only difference between the method in JP '449 and the method in claim 1 of the '111 patent is whether the individual *intended* to lower the adsorption potential of just the flyash or to lower the adsorption potential of both the flyash and another component. However, in *Ben Venue Laboratories*, the Federal Circuit stated that while the express dosage amounts were material claim limitations, "the *intended result* of administering those amounts does not change those amounts or otherwise limit the claim." *Id.* at 1375 (emphasis added). Because the intended result of the method does not change the range of treatment agent added, the phrase "to lower said adsorption potential of said cementitious composition" is not a limitation of claim 1.

Additionally, even if the phrase is a limitation of claim 1, it is inherently disclosed in the prior art. In their agreed claim construction, the parties defined "cementitious composition" as "a mixture of material such as ash, sand, cement aggregates, crushed stone, gravels, mortars, cements, clay, lime, lime sand, limestone, various siliceous and aluminous materials, stone, and similar materials that has the potential to harden." JP '449 clearly discloses a method for lowering

the adsorption potential of flyash. Because flyash is necessarily a component of the cementitious composition formed by the '111 patent, a reduction in the adsorption potential of the flyash inherently produces a reduction in the adsorption potential of the cementitious composition as a whole.

At the motion hearing, Mainland Laboratory argued that its assertion of novelty is supported by the limitation "effective amount." The plaintiff contends that an "effective amount" includes the amount of treatment agent necessary to control the adsorption potential of other components of the cementitious composition. Accordingly, because JP '449 only discloses controlling the adsorption potential of flyash and does not disclose controlling the adsorption potential of other components of the cementitious composition, it does not disclose "an effective amount."

However, the plaintiff's interpretation of the claimed invention does not comport with the clear claim language. First, the claim limitation at issue simply states "to lower said adsorption potential of said cementitious composition" and does not limit the method to addressing the adsorption potentials of additional components. Therefore, because the prior art discloses a method for pretreating a component that inherently lowers the adsorption potential of the cementitious composition, JP '449 inherently discloses this limitation.

Second, the agreed construction of the limitation "effective amount" is "the quantity of treatment chemical that is necessary to control the adsorption potential of a given quantity of a cementitious composition component." While this

construction clearly includes the quantity of treatment agent necessary to control the adsorption potential of a single component, such as flyash, there is nothing to suggest that it is limited to the quantity of treatment agent necessary to control the adsorption potentials of several components. Therefore, the quantities of surfactant disclosed in JP '449 to control the adsorption potential of flyash are clearly "effective amounts" for purposes of anticipating claim 1.

ii. Claim 2

Claim 2 differs from claim 1 in that the pretreating agent is selected from "the group consisting of a detergent, a surfactant, and an emulsifier." JP '449 clearly discloses a method for refining flyash with a surfactant-containing aqueous solution. D.E. 98, Ex. 6, p. 17. In response, Mainland Laboratory merely argues that JP '449 does not disclose the limitation "to lower said absorption potential of said composition." However, for the same reasons as above, this argument is without merit.

iii. Claim 3

Claim 3 is dependent on claims 1 and 2. The additional limitation provided by claim 3 is that the "effective amount of said treatment agent is in the range of about .001 wt% to about 2.0 wt% solid to solid." In Embodied Example 1, JP '449 teaches using an amount of treatment agent in the claimed range. *Id.* at 37. In response, Mainland Laboratory merely argues that JP '449 does not disclose the limitation "to lower said absorption potential of said composition." However, for the same reasons as above, this argument is without merit.

b. Obviousness

Headwaters also argues that the claimed inventions in the '111 patent are rendered obvious by JP '900 in light of JP '449. Because all of the claims are anticipated under 35 U.S.C. § 102(b), the Court does not need to reach this issue.

IV. Conclusion

The Court finds that there is clear and convincing evidence that the '111 patent is anticipated by JP '449. Although the patent examiner considered the abstracts from both prior art references, he did not obtain a full translation of either Japanese application before issuing the '111 patent. The full translation of JP '449 clearly shows that the methods claimed in the '111 patent were described in a printed publication in a foreign country more than one year prior to the application for patent in the United States.

Accordingly, because there is no genuine issue as to whether the '111 patent is anticipated, the Court grants Headwaters' motion for summary judgment on the invalidity defense.

So ORDERED this 20 day of July, 2009.

HAYDEN HEAD
CHIEF JUDGE